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ABSTRACT

A study compared the scores of Catholic and public school students at three different grade levels on educationally pertinent characteristics such as race, ability, level of parental education, amount of homework, and high school curricular track. Subjects, approximately 2,000 Catholic school students and 30,000 public school students in grades 3, 7, and 11, had their reading skills assessed. Results indicated that (1) the reading disadvantage of minorities compared to whites is less pronounced in Catholic than in public schools at all grade levels; (2) Catholic school students whose parents expressed no interest in their children's schoolwork scored as well as students whose parents talk to them about their schoolwork on a daily basis; and (3) the disadvantage accruing from a lack of early educational experiences appeared to make almost no difference in the reading proficiency of Catholic school students, while the lack of such experiences seemed to have an adverse relationship for students in public schools. Findings suggest that Catholic schools are particularly effective for those students who are at some social or educational disadvantage. (Thirteen tables of data and four figures are included; seven technical notes and 14 references are attached.) (RS)

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# NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS PROFICIENCY IN READING: 1985-86

## CATHOLIC AND PUBLIC SCHOOLS COMPARED

## FINAL REPORT 1989

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## Introduction

The 1985-86 National Assessment of Educational Progress (NAEP) scores measuring the average reading proficiency of a representative sample of the nation's students repeats an established pattern: students in Catholic schools at the grade and age levels tested achieve higher levels of reading proficiency than do their public school counterparts (Lee, 1985). These scores, however, are broad measures, indicating simply that the achievement differences favor students in Catholic schools. The assessment process also includes the gathering of educationally relevant background information on the students tested, and thus permits us to examine the performance of various subgroups of students. We must exercise caution, however, in making direct comparisons between the Catholic and public school sectors, since students from differing family backgrounds attend these two types of schools.

How much interpretation is appropriate from the available data? Comparisons of groups of students experiencing their schooling in these two sectors permit further descriptive analyses according to various demographic, environmental, and academic characteristics.[1] While the comparisons suggest that Catholic schools have a generally positive effect on the reading proficiency of all their students, we are more confident in attempting a comparative assessment of public and Catholic school students from varying social backgrounds by particular differentiating characteristics such as minority status, levels of parental education, or family resources supporting reading.

The reason for this cautious approach is that different types of children attend Catholic and public schools. While we know that (a) Catholic school students achieve at higher reading levels than those in public schools, we

also know that (b) Catholic school students are more socially advantaged. Since it is well established that (c) social background (especially social class) is definitely related to school achievement (Lee, 1985; White, 1982), we cannot ascribe the higher achievement of Catholic school students uniquely to the schools, since higher performance may also be explained by these students' more advantageous home environment. This controversy has been widely debated elsewhere (Coleman, Hoffer, Kilgore, 1982; Hoffer, Greeley, & Coleman, 1985; Jencks, 1985).

We wish to sketch an educationally informative but analytically appropriate profile of the effectiveness of the two school types in terms of reading proficiency. With this aim in mind, we provide a comparative analysis of the scores of Catholic and public school students at the third, seventh, and eleventh grade levels on educationally pertinent characteristics such as race/ethnicity, ability, level of parental education, amount of homework, and high school curricular track. A fundamental question guides our analyses: how equitable is the distribution of student achievement in the two school sectors? Put another way, how different is the reading proficiency of minority and majority students? How similar is the proficiency of students from less advantaged homes compared to that of their counterparts whose socio-economic backgrounds are more privileged? In pursuing this question and its related inquiries, the study follows the lead of previous research (Lee, 1985; Lee & Bryk, 1989; Lee & Stewart, 1989). The analysis is organized as follows:

- Introduction: presentation of general descriptive characteristics portraying the sample of students whose reading skills were assessed in 1985-1986.

- o Demographic Characteristics: how average reading proficiency varies between Catholic and public schools according to students' gender, race/ethnicity, level of parental education and reading quartile.
- o Environmental Characteristics: how the average reading proficiency of Catholic and public school students varies by characteristics of their home life, maternal employment status, and interest shown in their educational endeavors.
- o Academic Characteristics. how the average reading proficiency levels of students in Catholic and public schools relates to their schooling experiences, including attendance at preschool, homework, curricular track, English course placement, and educational aspirations.
- o Conclusion. a summary and discussion of the principal findings of this study.

Other reports on the National Assessment of Educational Progress provide useful supplementary background of both a technical and substantive nature (Applebee, Langer, and Mullis, 1988; Lee, 1986; Lee and Stewart, 1989; National Assessment of Educational Progress [NAEP], 1985).

Description of the Sample. The sample analyzed in this study is drawn in a three-stage probability design from the Catholic and public school populations in grades 3, 7 and 11 during the 1985-1986 school year who, together, comprised over 95 percent of the nation's students at each grade level. The Catholic school population represents from 6 to 7 percent of the total population of the nation's students (Table 1).

Public schools enroll more minorities, i.e., Black and Hispanic students taken together, than do Catholic schools at the three grade levels.[2] The difference in minority representation in the two sectors ranges from 5.5 percent more minorities in public school in grade 7, to roughly 8 to 9 percent more in grades 3 and 11. The percentage of Black students in public schools (14-16 percent) is greater than that in Catholic schools (5.5-9.5 percent) by about 6 percent in grades 7 and 11, and about 9 percent in grade 3.

While the proportion of Hispanic students in both sector's schools is roughly similar (10-12 percent) in grades 3 and 7, public schools enroll 3 percent more in grade 11 (4.5 vs 7.5 percent). Noteworthy (and potentially distressing) is the smaller proportion of Hispanics in high school in both the Catholic and public sectors, a decline likely to be due to differentially high dropout rates for Hispanics.

In terms of parents' education, the percentage of students whose parents attained either college graduation or some post-secondary education is greater for students attending Catholic schools for all three grade levels.

Table 1

Background Characteristics of Students in

Catholic Schools as Compared to Public Schools

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| % Attending | 6.0 | 89.8 | 6.9 | 88.6 | 6.1 | 90.8 |
| Sample Size | 564 | 8929 | 494 | 8756 | 969 | 15169 |
| DEMOGRAPHIC CHARACTERISTICS: | | | | | | |
| % Female | 52.7 | 50.3 | 54.8 | 48.3 | 44.4 | 50.0 |
| % Black | 5.5 | 14.7 | 9.5 | 15.7 | 8.0 | 14.0 |
| % Hispanic | 11.4 | 10.5 | 11.2 | 10.5 | 4.5 | 7.5 |
| PARENTS' EDUCATION:[a] | | | | | | |
| % < HS Grad | 2.5 | 7.7 | 3.3 | 8.6 | 4.7 | 8.2 |
| % HS Grad | 18.6 | 23.8 | 27.7 | 32.7 | 21.2 | 28.0 |
| % > HS Grad | 15.3 | 10.1 | 16.1 | 16.6 | 21.7 | 22.8 |
| % Col Grad | 63.3 | 58.4 | 52.9 | 41.8 | 52.4 | 40.8 |
| REPRESENTATION BY REGION: | | | | | | |
| % Northeast | 19.2 | 20.6 | 49.7 | 18.7 | 47.4 | 22.0 |
| % Southeast | 10.5 | 23.4 | 0.8 | 24.3 | 2.1 | 21.6 |
| % Central | 59.0 | 25.6 | 30.7 | 27.4 | 35.9 | 29.0 |
| % West | 11.2 | 30.4 | 18.9 | 29.7 | 14.7 | 27.3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| RESIDENTIAL LOCATION:[b] | | | | | | |
| % Adv Urban | 27.0 | 10.4 | 26.9 | 8.1 | 22.4 | 12.5 |
| % Big City | 18.2 | 8.7 | 27.0 | 10.9 | 15.1 | 7.6 |
| % Fringe | 12.0 | 11.3 | 12.1 | 12.5 | 37.9 | 14.4 |
| % Med City | 23.6 | 16.5 | 20.8 | 14.6 | 19.6 | 15.0 |
| % Small Place | 17.8 | 33.8 | 9.5 | 37.6 | 5.0 | 39.7 |
| % QUARTILES: | | | | | | |
| % Upper | 12.8 | 21.3 | 15.8 | 20.3 | 14.2 | 22.4 |
| % Middle (2) | 76.1 | 48.4 | 72.6 | 50.5 | 79.9 | 50.2 |
| % Lower | 10.3 | 30.3 | 11.5 | 29.1 | 5.8 | 28.4 |

[a]Proportions of all students who knew the level of their parents' education are given. At grade 3, 45.9 percent the students were not able to provide this information; at grade 7, 12.4 percent; at grade 11, 3.4 percent. We have no information on the randomness of these missing data.

[b]Proportions of students who attend schools in extremely rural and disadvantaged urban areas have been excluded, as there is such a limited representation of Catholic schools in these areas. For this reason proportions do not sum to 100 percent.

While public schools in the sample are reasonably evenly distributed throughout the country, Catholic schools are found more commonly in the Northeast and Central regions. Catholic schools are least common in the Southeast. In terms of residential location, at all three grade levels the modal location for public schools is in what the National Assessment defines as a small place. Catholic schools, on the other hand, are found more

frequently in heavily populated areas -- big cities and their suburbs (fringe in Table 1).

At all three grade levels, Catholic school students out-perform their public school counterparts in reading (Table 2).[3] The difference in average reading proficiency scores of students in Catholic and public schools is smallest in grade 3, a little over 2 points. At the 7th and 11th grade levels, however, the between-sector difference is well over 4 points. The "reading proficiency advantage" of Catholic over public schools appears to increase for higher grade levels.[4]

Table 2

Average Reading Proficiency Score for Students in Catholic Schools and Public Schools

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Total | 40.1 | 37.9 | 53.2 | 48.4 | 60.0 | 55.6 |

Reflecting a leveling-off of the learning rate for all students, the increase in average performance between 3rd and 7th grades is greater than that occurring between 7th and 11th grade in both sectors (Figure 1). However, it is the Catholic "advantage" that increases somewhat more between the elementary and middle school grades.

## Demographic Characteristics:

## Comparison of Average Proficiency Levels According to Gender, Race/Ethnicity, Parental Education Level and Ability

To investigate our major question -- how does the equitable distribution of student achievement differ in Catholic and public schools? -- this analysis will examine variation in reading proficiency according to the gender, race/ethnicity, parental education and ability levels of students within the two school sectors. Our method for examining these equity questions focuses on differences. That is, relatively small differences in reading proficiency levels between demographic groups -- males/females, Blacks/Whites, Hispanics/Whites, children whose parents have relatively more or less education, children of "lower" and "higher" ability -- are interpreted as indicating more social equity in schools. These investigations of a socially equitable distribution of reading proficiency in the two sectors should be seen in the context of a generally higher proficiency level in Catholic than in public schools at all three grade levels.[5]

Gender. Females typically score between 1 and 4 points above their male peers in reading proficiency (Table 3). The difference between genders is smallest (virtually nonexistent) in both sectors in grade 3 (Figure 2). For students in Catholic schools, however, the widest gender difference is in 7th grade, where females average slightly more than 3 points higher than males. At that grade level, the female advantage in Catholic schools exceeds that in public schools. By 11th grade the Catholic school gender gap narrows to a 2 point difference. In public schools, however, the female advantage in reading continues to increase at each time point to a maximum of 3.6 in 11th

FIGURE 1
1985-86 AVERAGE READING PROFICIENCY SCORES
FOR STUDENTS IN CATHOLIC AND PUBLIC SCHOOLS

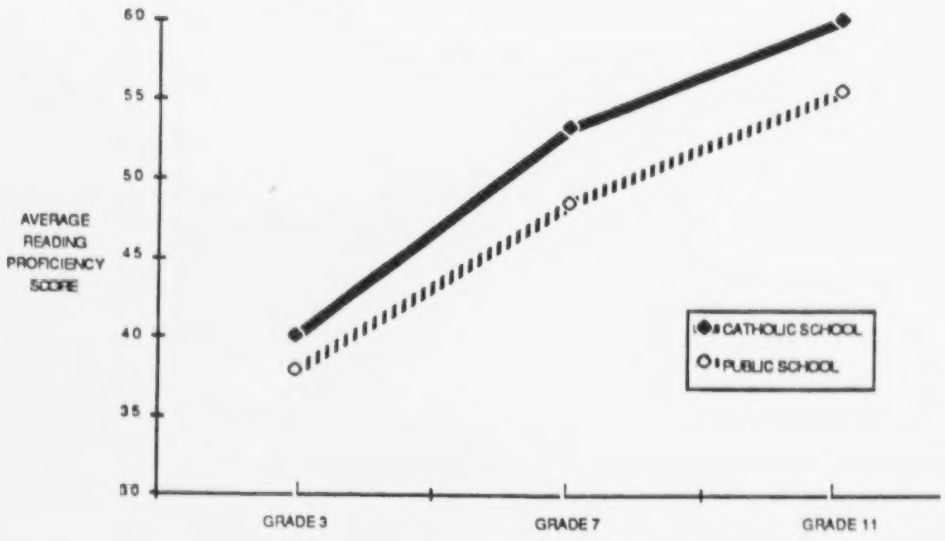
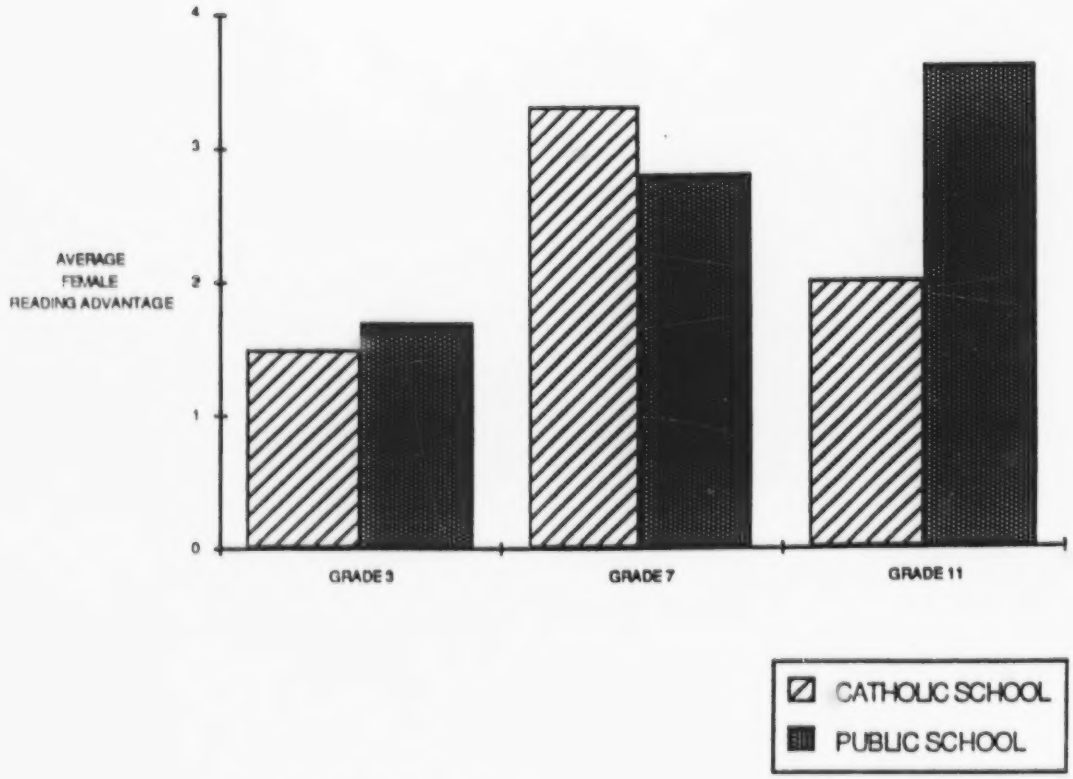


FIGURE 2
AVERAGE READING PROFICIENCY ADVANTAGE
FOR FEMALES OVER MALES IN CATHOLIC AND PUBLIC SCHOOLS



grade. At that grade level, the female advantage in public school is almost twice as large as that in Catholic school.

Table 3

Average Reading Proficiency Score for Students in Catholic Schools and Public Schools According to Gender

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Males | 39.3 | 37.0 | 51.5 | 47.0 | 59.1 | 53.8 |
| Females | 40.8 | 38.7 | 54.8 | 49.8 | 61.1 | 57.4 |

Race/Ethnicity. Unfortunately, but not surprisingly, in both Catholic and public schools, White students, on average, achieve higher reading levels than do minorities. Among all racial and ethnic groups, however, the average performance of students in Catholic schools exceeds that of students in public schools (Table 4).

Table 4

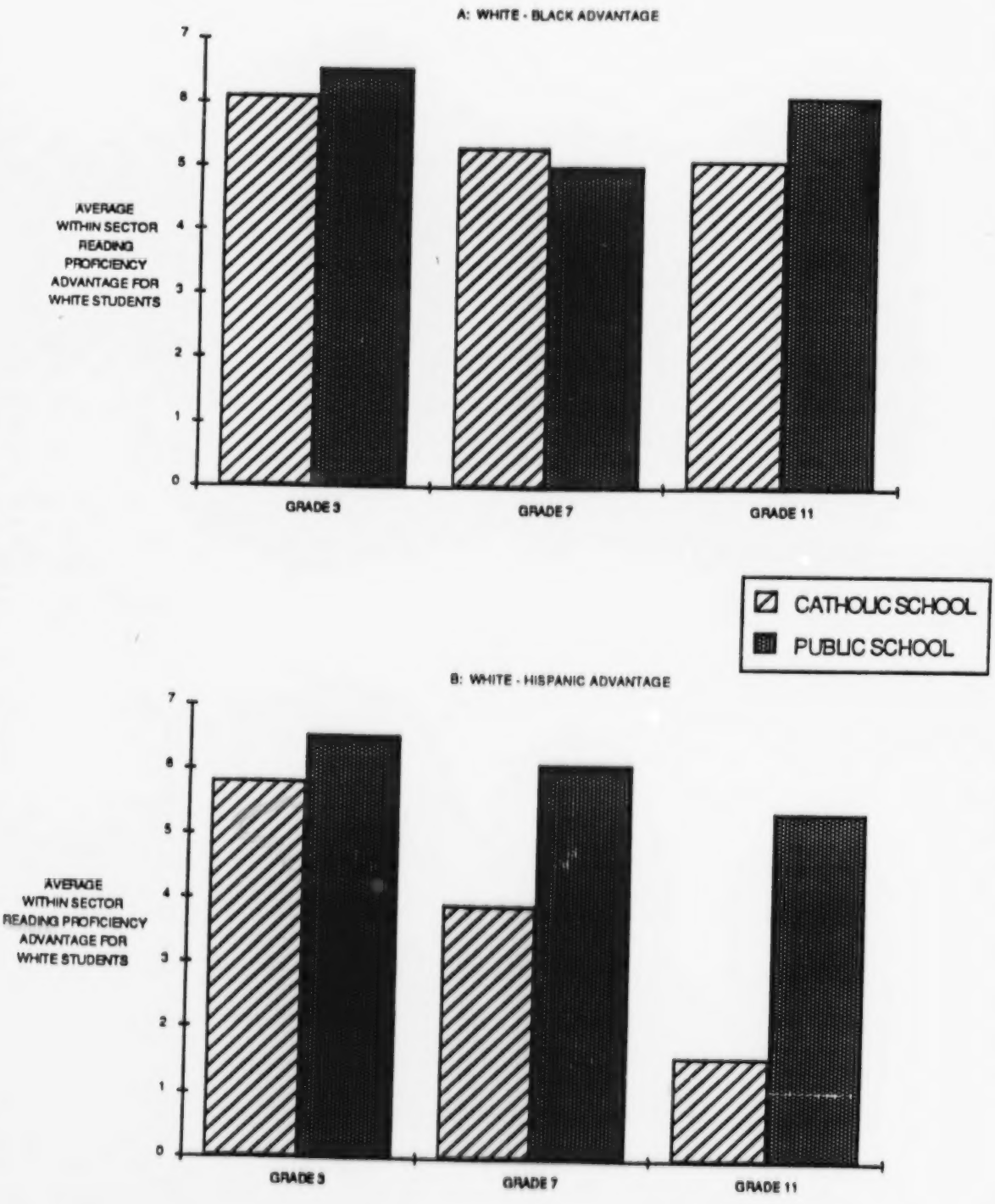
Average Reading Proficiency Scores for Students in Catholic and Public Schools By Racial and Ethnic Subgroups

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Whites | 41.2 | 39.6 | 54.1 | 49.9 | 60.5 | 56.9 |
| Blacks | 35.1 | 33.1 | 48.8 | 44.9 | 55.2 | 51.0 |
| Hispanics | 35.4 | 33.1 | 50.2 | 43.8 | 59.0 | 50.9 |

We have chosen to interpret the racial and ethnic sector differences in terms of the relative White advantage when compared with Black students or Hispanic students within the same sector (Figure 3 constructed from the differences in Table 4). By using these White/Black or White/Hispanic differences, we wish to imply that more social equity is seen in schools where such differences are minimized. Two marked patterns exist in the reading proficiency of minorities compared to their White sectormates. In general, the advantage of Whites in comparison to their Black peers in Catholic and public schools is quite similar across grade levels (Figure 3A). While this type of comparison would imply that the two school types are equivalent in this regard, it is well to recall that both Blacks and Whites in Catholic schools achieve at higher levels.

More dramatic differences are evident in comparing the White advantage vis-a-vis Hispanics in the two sectors: 2.2 points in grade 7, and 4.5 points in grade 11 (Figure 3B). This means that Hispanics in Catholic schools, while

FIGURE 3
AVERAGE READING ADVANTAGE
OF WHITE STUDENTS AS COMPARED TO BLACK AND HISPANIC STUDENTS
WITHIN CATHOLIC AND PUBLIC SECTORS



scoring below Whites, score closer to majority students than do their public school Hispanic counterparts. While some of the difference in Hispanic peformance between the two school types may be attributable to factors other than the direct school experience, such factors are not available from NAEP data.

Parents' Education. As other research has shown repeatedly, children's achievement levels are associated with their parents' educational attainment. That descriptor provides another useful basis of comparison between students in Catholic and public schools (Table 5). In keeping with our focus on educational equity we have chosen to compare, within each sector, the difference between the average reading proficiency of students whose parents have relatively little education (i.e., less than high school graduation), with those who have attained fairly high levels of education (i.e., at least college graduation).

Within Catholic schools, the difference separating these groups declines somewhat with progressively higher grade levels -- 5.2 points at grade 3, 4.8 points at grade 7, 3.5 points at grade 11. This suggests that the Catholic school experience may be equalizing the achievement advantage that can be linked to higher levels of parental education. Among public school students, by contrast, this "parental education gap" remains quite constant across grade levels. A gap of 6.0 points exists between students' average achievement at the lowest and highest levels of parent education at 3rd grade, narrows to 4.7 points at the 7th grade level, and widens to a maximum of a 7-point difference at the 11th grade.

Table 5

Percentage of Parent Education Level with

Average Student Reading Proficiency by Sector

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| % < HS Grad | 2.5 | 7.7 | 3.3 | 8.6 | 4.7 | 8.2 |
| | 36.0 | 34.1 | 49.3 | 45.7 | 57.5 | 51.3 |
| % HS Grad | 18.6 | 23.8 | 27.7 | 32.7 | 21.2 | 28.0 |
| | 39.6 | 36.5 | 52.4 | 47.4 | 58.6 | 53.2 |
| % > HS Grad | 15.3 | 10.1 | 16.1 | 16.6 | 21.7 | 22.8 |
| | 41.7 | 38.1 | 54.2 | 50.1 | 60.0 | 56.7 |
| % Col Grad | 63.3 | 58.4 | 52.9 | 41.8 | 52.4 | 40.8 |
| | 41.2 | 40.1 | 54.1 | 50.4 | 61.0 | 58.5 |

Ability. The proportion of students whose reading proficiency levels fall within the upper and lower quartiles of these scores nationally are presented as quartile rankings for each sector and grade level (Table 6). Also included in the table are the actual average scores for the students in these rankings. We interpret quartile ranking as a surrogate indicator of reading and/or verbal ability. Catholic schools have smaller proportions of students ranking in the highest and lowest quartiles than do public schools.

Table 6

Percentage at Upper and Lower Ability Quartiles with Average Reading Proficiency for Each Sector

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| % Upper | 12.8 | 21.3 | 15.8 | 20.3 | 14.2 | 22.4 |
| Average Proficiency | 39.9 | 47.0 | 54.6 | 56.7 | 60.0 | 65.4 |
| % Lower | 10.3 | 30.3 | 11.5 | 29.1 | 5.8 | 28.4 |
| Average Proficiency | 35.9 | 29.2 | 48.6 | 40.3 | 55.0 | 45.1 |
| Difference[a] | 4.0 | 17.8 | 6.0 | 16.4 | 5.0 | 20.3 |

[a]Proficiency difference between the highest and lowest quartiles.

We see an unusual pattern here. While public school students in the upper ability quartile average significantly higher scores than do students in Catholic schools, ranging from 2 to 7 points (e.g., 39.9 vs. 47.0 points for Catholic and public school third graders), public school students in the lowest quartile score considerably below their Catholic school counterparts, ranging from an average of more than 6 to almost 10 points lower than

students in Catholic schools. In fact, public school students in grade 11 in the lowest quartile actually score significantly below Catholic school lower quartile 7th graders (45.1 vs. 48.6).

In keeping with previous comparisons, we present another way to interpret the ability quartile scores, by measuring the difference between the average upper quartile score and the average lower quartile score in each sector. In Catholic school, the difference between these quartiles is 5 to 6 points. A much more marked variation exists in public schools, where the divergence in scores is 16 to 20 points.

These two findings taken together -- lower proportions of Catholic school students in the ability extremes and less divergent score differences for students in high and low ability quartiles -- provide additional evidence to support the suggestion that reading proficiency in Catholic schools is more homogeneous at all grade levels than it is in public schools. The ability quartiles are not determined separately for the two sectors. Since the overall proficiency is higher in Catholic schools, it is not surprising that the proportion of their students in the lowest quartile is smaller than for public schools. What is surprising is the lower proportion of Catholic school students who score in the highest quartile.

## Environmental Characteristics:
## A Comparison of Average Proficiency Scores According to Factors Tapping Home Support for Children's Education

Maternal Employment. In general, more than 60 percent of mothers of children at all three grade levels in both sectors work outside the home (Table 7). A somewhat larger proportion of mothers of lower grade students who attend public school are employed, however, than those of Catholic school students. Of those who are employed, slightly more mothers of public school students than mothers of Catholic school students are employed full-time. Moreover, the proportion of mothers who do not work outside the home decreases at each grade level to a low of approximately 25 percent for both sectors in grade 11. Two additional observations are relevant about these maternal employment figures. First, among third-graders, there is little difference in achievement levels in either sector with reference to whether a mother works. In grades 7 and 11, students whose mothers work part-time achieve, on average, higher reading proficiency levels than children whose mothers work full-time or children whose mothers do not work outside the home. These results are quite different from other research about the effect of maternal employment on children.[6]

Table 7

Average Reading Proficiency for Students in Catholic and Public Schools According to Mother's Employment Status

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| Does Your Mother Work? | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Yes | 61.9% | 64.3% | 66.8% | 69.6% | 72.9% | 72.0% |
| | 39.8 | 38.0 | | | | |
| Full-time | | | 41.5% | 46.6% | 47.9% | 54.1% |
| | | | 52.8 | 49.2 | 60.3 | 56.3 |
| Part-time | | | 25.3% | 23.0% | 25.0% | 17.9% |
| | | | 54.4 | 49.5 | 61.1 | 57.4 |
| No | 37.0% | 33.5% | 31.8% | 27.8% | 25.5% | 24.9% |
| | 41.3 | 38.1 | 53.7 | 48.3 | 59.9 | 56.1 |

Home Interest in Students' Schoolwork. Another indicator of home support for reading is students' reports of interest taken in their schoolwork by other household members. Among students in Catholic and public schools, the degree of home interest (tapped by students' reports of the frequency of someone asking about their schoolwork) is very similar at all three grade levels, as shown in Table 8. Despite the similarity in frequency, a striking difference in their average reading proficiency scores is noted.

Table 8

Proportions and Average Proficiency for Students in Catholic and Public Schools by Frequency of Home Interest Expressed in Students' Schoolwork

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Asked Daily | 67.8% | 67.2% | 71.9% | 72.7% | 65.1% | 56.7% |
| | 40.4 | 38.4 | 53.1 | 48.6 | 59.7 | 56.1 |
| Never Asked | 17.7% | 18.9% | 7.3% | 10.0% | 7.1% | 13.6% |
| | 40.0 | 36.5 | 53.5 | 46.9 | 59.8 | 53.7 |

Among students in Catholic schools at each grade level, there is almost no difference in reading performance between those who are asked at home each day about their schoolwork and those who are never asked. In other words, interest at home seems to be unrelated to reading proficiency for such students. Public school students, on the other hand, display significantly different levels of proficiency, on average, based on the amount of interest they report from home. This finding, again, suggests that Catholic schools may be providing a normative environment that in some way compensates for less support from home, an argument made elsewhere by Coleman and Hoffer (1987); and Lee and Bryk (1989). It could be that teachers may be exerting a higher expectancy that the students will complete their homework, lessening the need for such support from the home.

## Academic Characteristics:

## A Comparison of Average Reading Proficiency Scores According to Schooling Experiences and Academically Related Behaviors

Due to our inability to introduce statistical adjustment for the differences in the student and family populations in Catholic and public schools in analyses of these NAEP data, we wish to reemphasize that reading proficiency differences per se are not the focus of this inquiry. On the other hand, we feel that the equity concerns described so far are appropriately addressed by examining some characteristics of the internal workings of schools in the two sectors. Investigating possible explanations for why the social distribution of achievement -- tapped by minority/majority proficiency differences or proficiency differences related to the educational background of parents -- appear to be lower in Catholic schools thus becomes the subject of our next examination. We particularly focus here on academic organizational differences in the two sectors, reflecting one of the author's other works on this subject using other data (Lee & Bryk, 1988-1989). Logically, we center most of our discussion in this section on high schools, where academic organizational differences between the sectors are most identifiable.

Attendance at Nursery, Preschool, Daycare, or Kindergarten. While the majority of students in both Catholic and public schools have participated in a nursery, preschool, or daycare program, and over 96 percent of all students have attended kindergarten (Table 9), comparison of the average reading proficiency reveals different effects by sector of such early

Table 9

Proportions and Average Reading Proficiency[a]

For Students in Catholic and Public Schools Reporting

Attendance in Nursery, Preschool, Daycare or Kindergarten

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Nursery, Pre-school, Daycare | | | | | | |
| Yes | 69.6% | 55.3% | 64.6% | 51.8% | 55.1% | 46.4% |
| | 40.9 | 39.3 | 53.3 | 49.6 | 60.1 | 56.8 |
| No | 19.7% | 32.8% | 30.1% | 38.0% | 41.3% | 46.6% |
| | 40.1 | 36.5 | 53.1 | 47.6 | 59.9 | 55.1 |
| Kindergarten | | | | | | |
| Yes | 97.9% | 94.2% | 96.5% | 93.5% | 96.6% | 92.1% |
| | 40.4 | 38.2 | 53.3 | 48.7 | 60.1 | 55.9 |
| No | 1.5% | 4.5% | 3.3% | 5.2% | 2.4% | 6.7% |
| | 35.4 | 34.2 | 50.2 | 45.3 | 56.3 | 53.1 |

[a]Because the proportions given comprise only those students who knew whether they attended nursery, preschool, daycare or kindergarten, the percentages do not sum to 100%.

education. In public schools, students at each grade level who received early education consistently and significantly out-perform their peers who did not. However, whether a Catholic school child had early schooling or not appears to make no significant difference on performance. Again, this suggests that student differences in academic background (as well as the social background differences discussed earlier) are less influential in determining academic progress in Catholic than public school.

Homework. At all three grade levels, the proportion of public school students who either do not have or do not do assigned homework substantially exceeds that of Catholic school students (Table 10). For example, these proportions (summed) are 3 vs. 9 percent at grade 3; 1 vs. 12 percent for grade 7; and 7 vs. 16 percent at grade 11 in Catholic and public schools, respectively. Note that as students advance in school, when more homework is normally expected, that proportion increases. Furthermore, the two sectors differ in the proportion of students who spend a great deal of time on homework, i.e., an hour or more in grade 3, two or more hours in grades 7 and 11. It seems reasonable that these findings -- that Catholic school students report doing more homework at all three grade levels -- are associated with the disparity in average reading proficiency between public and Catholic school students, since other research has consistently documented the positive effect of homework on achievement. The relative importance of homework evidenced by these reports suggests, in general, either a more rigorous academic environment in Catholic schools, more motivated students and families, or some combination of both.

Table 10

Proportion and Average Proficiency of Students in Catholic and Public Schools Reporting Different Amounts of Time Spent on Homework

| | GRADE 3 | | GRADE 7 | | GRADE 11 | |
|---|---|---|---|---|---|---|
| | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL | CATH SCHL | PUB SCHL |
| Have none | 3.2% | 8.9% | 0.3% | 5.5% | 0.8% | 7.4% |
| Don't do[a] | ___ | ___ | 0.7% | 6.0% | 5.7% | 9.8% |
| 15 minutes[b] | 24.2% | 34.6% | ___ | ___ | ___ | ___ |
| 1/2 hour | 31.7% | 26.5% | 13.6% | 21.2% | 15.1% | 18.4% |
| 1 hour | 24.9% | 16.3% | 46.9% | 40.1% | 37.4% | 33.9% |
| 1 hour (+)[b] | 16.1% | 13.8% | ___ | ___ | ___ | ___ |
| 2 hours[a] | ___ | ___ | 25.7% | 19.1% | 25.8% | 19.4% |
| 2 hours (+)[b] | ___ | ___ | 12.8% | 8.2% | 15.2% | 11.1% |

[a]Measured in Grades 7 and 11 only.

[b]Measured in Grade 3 only.

High School Curricular Program. We now turn our discussion toward different aspects of academic emphasis in high school. As repeated elsewhere (Coleman, et al., 1982; Lee & Bryk, 1988) more of the eleventh-graders in Catholic high schools (75.2 percent) follow an academic/college preparatory

curricular program or track than do students in the public sector (49.2 percent) (Figure 4). About 40 percent of public school students follow a general curricular program, compared to 23.3 percent in Catholic schools. Very few students in Catholic schools enroll in a vocational program; 1.5 compared to 10.9 percent in the public schools.

A comparison of the average reading scores of students within the two sectors according to their high school curricular program again shows Catholic high school students in all three curricular programs out-performing their public school counterparts (Table 11). More noteworthy is the fact that the Catholic school proficiency advantage is greater in the nonacademic tracks, also reported by Lee and Bryk (1988).

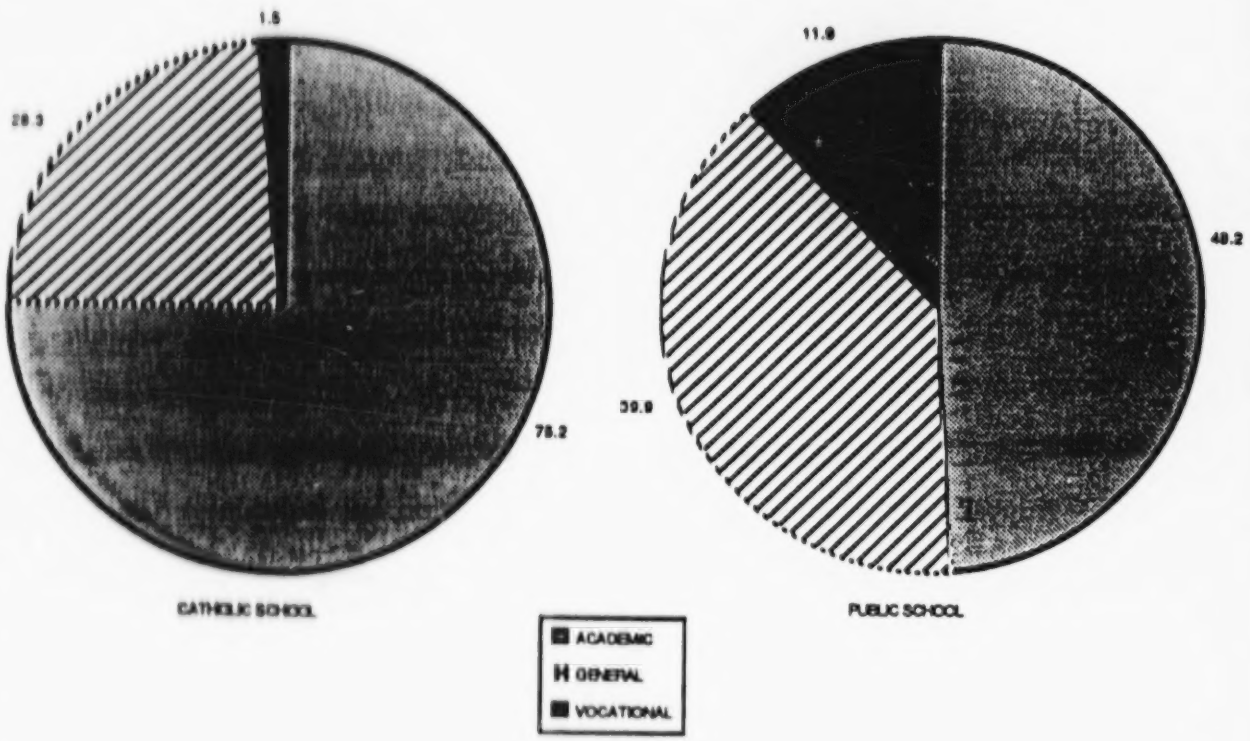
Table 11

Average Reading Proficiency Scores for Students in Catholic and Public High Schools by Curricular Program

| | CATHOLIC SCHOOL | PUBLIC SCHOOL |
|---|---|---|
| Academic | 61.2 | 59.3 |
| General | 56.4 | 52.5 |
| Vocational | 56.1 | 50.8 |

Current English Courses. Slightly more Catholic (16.4 percent) than public school juniors (14.8 percent) have taken Advanced Placement English (Table 12),[7] and the Catholic school students who take Advanced Placement English out-score their public school counterparts. This finding is particularly noteworthy, since readers may recall that public schools enroll

FIGURE 4
PROPORTIONS OF STUDENTS
ENROLLED IN THE THREE HIGH SCHOOL CURRICULAR PROGRAMS
BY SECTOR



a higher percentage of students in the upper ability range in reading proficiency (cf., Table 6). Among the 41.3 percent of Catholic school students and 28.1 percent of public school students who take a college preparatory English course, there is no significant difference in reading proficiency.

Students taking a general program English course in the Catholic school, however, out-score those in public school by 4.5 points, as do those in a remedial course (5.5 points). Although the percentage of students in each

Table 12

Proportions and Average Proficiency Scores for Eleventh-Graders in Catholic and Public Schools by Current High School English Courses

| | CATHOLIC SCHOOL | PUBLIC SCHOOL |
|---|---|---|
| Advanced Placement | 16.4% | 14.8% |
| | 65.5 | 60.5 |
| College Preparation | 41.3% | 28.1% |
| | 60.3 | 59.0 |
| General | 39.0% | 52.1 |
| | 57.6 | 53.1 |
| Remedial | 1.2% | 2.3% |
| | 52.8 | 47.3 |
| None | 2.2% | 2.7% |
| | 57.8 | 51.1 |

sector currently taking no English course is small, (2 to 3 percent), the performance of Catholic school students in this category exceeds that of public school students by 6.7 points. These differences reflect the findings reported above about sectoral score differences for students in different curricular tracks.

Plans After Graduation. The reading proficiency scores of Catholic and public high school students are also associated with the activities they plan after high school graduation. The largest score difference (4.5 points) exists between students in the two sectors who plan to join the work force after graduation.

Table 13

Proportions and Average Reading Proficiency Scores for Students in Catholic and Public Schools by Their Plans After Graduation From High School

| | CATHOLIC SCHOOL | PUBLIC SCHOOL |
|---|---|---|
| Working | 7.0% | 17.8% |
| | 55.4 | 50.9 |
| 2 yr college | 13.2% | 21.6% |
| | 57.2 | 54.7 |
| 4 yr college | 73.0% | 50.1% |
| | 61.9 | 59.7 |
| Other | 6.8% | 10.5% |
| | 53.7 | 52.0 |

These proportions vary considerably -- 7 percent of Catholic high school juniors vs. 18 percent of public school juniors -- reflecting the largely academic focus of Catholic high schools seen in Figure 6. Among those planning to attend college, however, we see a smaller difference (2 to 3 points) in the average reading proficiency between the sectors (Table 13). There is no score difference between the sectors among the small proportion of students who plan to do something else.

## Summary and Conclusions

If proficiency in reading is an important measure of school success, Catholic schools serve their students well. However, as we stated before, these analyses do not allow us to conclude that the schooling process, net of selection differences in students and families, accounts for differences in these high school reading scores for students from Catholic schools. What has emerged from this analysis of the 1985-86 NAEP reading proficiency assessment, however, is an indication of the particular effectiveness of Catholic schools for those students who are at some social or educational disadvantage. For example:

- The reading disadvantage of minorities compared to Whites is less pronounced in Catholic than in public schools at all grade levels.
- Another disadvantage experienced by children is lack of parental interest in their schoolwork. In Catholic schools, however, students whose parents express no interest in their schoolwork score as well as students whose parents talk to them about their school work on a daily basis.

- The disadvantage accruing from a lack of early educational experiences appears to make almost no difference in the reading proficiency of Catholic school students, while the lack of such experiences seems to have an adverse relationship for students in public schools.

Why Catholic schools appear to succeed in minimizing the disadvantages experienced by many of their students cannot be fully explained in a descriptive report such as this one. Although the evidence suggests that an emphasis on academics which characterizes Catholic high schools may help explain these phenomena, this study cannot make such an assertion conclusively.

What May We Conclude From This Study?

While the results of this study alone, do not provide solid statistical evidence that the academic environment of Catholic schools is responsible for the advantage in reading proficiency their students have over their public school counterparts, we believe that several findings from this study add to our understanding of the "common school" phenomenon first reported by Coleman, et al. (1982). Following their rationale, we have focused on reading proficiency differences between students of different social and academic backgrounds in Catholic and public schools. Over and over, we have reported that demographic, family, and academic background is less strongly associated with reading proficiency for students who attend Catholic schools -- a relationship which we have come to identify as "the social distribution of achievement."

There are important differences between Catholic and public schools which we have been unable to address in this report. Such factors include: the motivation of parents to send their children to private school (and their ability to pay tuition); the types of students who are themselves interested in this type of education; membership in a community of parents, faculty and students who share a common set of values (academic and/or religious); a curriculum which includes the explicit study of religion and ethics; a commitment to social justice which includes required activities in this area; the ability to decide that students with special needs (e.g., special education, physical handicaps) cannot be accommodated; and the ability to alter faculty and curriculum at will. Virtually none of these options are available to public school administrators. We freely admit that such factors are probably quite important in developing higher proficiency among students.

We have attempted, in the latter part of this report, to confine our analyses to characteristics of the academic organization of schools -- factors over which all schools have control. Which curricular programs or tracks students follow is not a decision which is or should be entirely under the purview of students and parents. We believe that schools have a responsibility to encourage academically able or educationally ambitious students -- maybe even all students -- into a high school program which focuses on academic concerns. Most Catholic school students follow such a program. However, those students who are enrolled in the nonacademic tracks or in a nonacademic English course in Catholic high school read almost as well as those who do, a phenomenon not seen in public schools. This same pattern is seen in other factors which tap either the academic organization of schools or the academic background of students, including those who do and do not take Advanced Placement English, who do a little and a lot of homework,

who did and did not attend pre-school, or whose parents do and do not inquire about school activities. In each of these instances, the reading proficiency of students who were less or more advantaged was less strongly affected by such differences in Catholic than in public schools.

We are in a curious position here. We are able to provide solid statistical evidence about the academic emphasis of schools (and students) in the two sectors, showing that Catholic schools and their students are quite focused on academic concerns. We are also able to provide solid evidence of higher reading proficiency for Catholic school students, although we cannot claim that Catholic schooling causes this proficiency advantage. Therefore, we have confined our analyses to an investigation of issues of social and educational equity in the two sectors. We have documented repeatedly what we claim are instances of the more socially equitable distribution of reading proficiency in Catholic compared to public schools. However, because of inability to statistically link the documented academic emphasis and socially equitable distribution of achievement, we must leave the readers with a dilemma.

While we believe that these two phenomena are integrally connected, we are unable to definitively establish that they are. Nevertheless, we think the findings in this report demonstrate that a certain academic organizational structure -- fewer curricular choices, a strong normative environment which encourages students of all social backgrounds to pursue an academic program of study -- is responsible in large part for the increased social equity in Catholic schools. We also believe that such an academic organization is possible in all schools, and should not be confined to those which identify themselves as "Catholic."

## Technical Notes

1. Previous reading assessments permitted a comparison of Catholic schools against the national average only. The national average tended to resemble public school scores because of their large representation in the sample. But because the national average also included Catholic schools, the samples were not independent. As a result comparative analyses were statistically problematic.
2. Racial and ethnic subgroups in this analysis include Blacks, Hispancics, and Whites. Although the National Assessment background descriptors also include American Indian, Asian, and Pacific Islander subgroups, their proportion in the population is insufficient for appropriate statistical analysis.
3. The scoring scale (0-100) for the 1985-86 reading scores differs from that of previous years (0-500). The current metric is in effect until the 1985-86 Assessment can be anchored to the results of assessments in previous years, allowing longitudinal comparisons (Applebee, Langer & Mullis, 1988).
4. Generally, unless otherwise noted, the findings reported in this report have achieved statistical significance at a probability level of .05 or less. Statistical significance here means that the probability of this result occurring by chance alone is equal to or less than .05. The test for statistical significance requires that the difference in means when divided by the square root of their combined standard errors results in a quotient of 2 or more.

5. The difference in the explanations for the social distribution of achievement in Catholic and public high schools has been explained in detail by Lee & Bryk (1988-89).

6. See the entire issue of Sociology of Education, ([59] [3], July 1986) devoted to this topic. However, other research using NAEP data has shown findings similar to those described here.

7. They may still take the course in their senior year, which would not be included in the present analysis.

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